



## Intelligent Spacecraft Interface Systems (ISIS) Lab

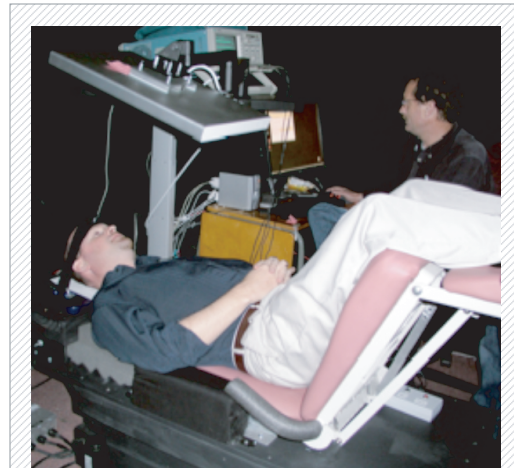
**Objective** The mission of the Intelligent Spacecraft Interface Systems (ISIS) group is to improve mission safety and efficiency by developing techniques to improve the interface between crew-members and next-generation spacecraft.

**Approach**

- Develop, Test, Evaluate, and Validate Project Constellation vehicle operational concepts and associated user interfaces during dynamic flight phases
- Determine effects of Performance Shaping Functions (vibration, input devices) on crew performance
- Provide design guidelines to vehicle developers
- Develop advanced tools and methodologies to support testing by verification and testing by analysis

**Equipment**

- Head-mounted eye-tracker (by ISCAN)
- Reconfigurable Flat Panel monitors for display presentation and display navigation
- Integrated seat and vibration platform
  - 3 DOF (heave, pitch, roll) vibration capability
  - Full frequency spectrum up to 100 Hz
  - Full range of amplitudes up to 1g (.7 g at 12 Hz thrust oscillation frequency)
  - Accelerometer-based real-time recording of chair and head vibration
- Integrated simulation software for nominal and off-nominal situation scripting
- Integrated data collection and analyses tools
- Integrated human-in-the-loop data collection and human performance modeling development software



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